REPORT OF THE TECHNICAL COMMITTEE

ON INDEX NUMBERS OF

FOREIGN TRADE OF INDIA

GOVERNMENT OF INDIA
MINISTRY OF COMMERCE
DECEMBER, 1980

A N N E X E S

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C O N T E N T S

INTRODUCTION

The responsibility for construction and publication of index numbers of foreign trade of India lies with the Directorate General of Commercial Intelligence and Statistics (D.G.C.I.& S.), Calcutta, which is a subordinate office of the Ministry of Commerce, Government of India. Monthly and annual index numbers of unit (declared) values and of the quantum of foreign trade are published, separately for exports and imports and for a number of classes of commodities. Gross, net and income terms[1] of trade are also computed from these index numbers.

1.0.1 Prior to January 1957, the index numbers of foreign trade were prepared on 1952-53 = 100 as base. Subsequently the base was shifted to the year 1958. The index numbers on base 1958 = 100 continued upto 1974-75 when the base was again shifted to the year 1968-69 which is the base for the existing series of index numbers.

1.0.2 As the DGCI&S itself is responsible for compilation and publication of foreign trade statistics of India, no special effort is required for the acquisition of data for the construction of these index numbers. For the basic data on foreign trade, the DGCI&S is dependent on Customs Houses and on foreign postal appraisers.

1.1   Background of the formation of the Committee

As already stated, the existing series of index numbers are based on 1968-69 as base year. Computation of

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1. 'Gross terms of trade' is defined as the ratio of Quantum Index of Import and that of Export, 'Net terms of trade' is defined as the ratio of Unit-value Index of Export and that of Import while 'Income terms of trade' is defined as the product of 'Net terms of trade and 'Quantum Index of Export'.

the index numbers takes account of quantum and value data
for 489 commodities (as per Revised Indian Trade Classi-
fication (RITC) for exports and for 511 commodities under
imports. In terms of percentage of value of trade in the
base year, the coverage of these lists is 92 for exports
and 89 for imports. The indices are presented for 26
commodity heads under exports and for 27 commodity heads
under imports (Annex-I). On the adoption of the Indian
Trade Classification Revision II ITC-R.2 with effect from
April, 1977, it became necessary to regroup the items, and
the computations for subsequent months are based on the
data for nearly one thousand items matched with the original
items chosen as per RITC.

1.1.1 The present series of index numbers has some serious
limitations at least if it is used for the late seventees.
These are briefly mentioned below:-

> (i) The pattern of India's foreign trade has
> undergone marked changes (vide tables 1 & 2) during
> the last decade. Owing to diversification of
> exports, import substitution, structural changes
> in domestic production and other factors. A good
> number of commodities like (as per RITC) 6119104,
> 6119203, 6119204, 7196401 etc. in case of exports
> and 2663101, 5133501, 6517105, 6612001 etc. in
> case of imports not included in the present commo-
> dity basket have become dominant in the foreign
> trade of India in the recent years, while others
> like (as per RITC) 6532106, 6822107, 6842112, etc.
> in case of exports and 0481200, 2640001, 2640002,
> 6974122 etc. in case of import have become virtually

insignificant. The coverage of trade for the
sampled commodities registered a sharp fall over
the years especially for exports (vide Table 3).
This is natural as the base 1968-69 has become
fairly old.

Table 1 : Percentage share of existing commodity heads
in total export of India.

COMMODITY HEADS	Percentage share in total trade	
	1968-69	1978-79
1	2	3
Section : 0-Food	26.8	25.5
Fish & Fish preparations	1.6	3.9
Fruits & Vegetables	5.3	2.5
Sugar, sugar preparations & honey	7.8	2.4
Coffee	1.3	2.5
Tea and Mate	11.5	6.0
Spices	1.9	2.6
Oilseed cake	3.6	2.0
Section: 1-Beverages & Tobacco	2.5	2.1
Section: 2-Crude materials inedible except fuels	15.6	9.0
Hides, skins & fur skins undressed	0.4	...
Wool and other animal hair	0.4	...
Cotton	1.2	0.4
Crude fertilisers & minerals excld. coal, petroleum crude etc.	1.4	0.9
Metalliferrous Ores & Metal scrap	8.4	4.9
Crude animal & Vegetable materials	2.7	2.2

1	2	3
contd.		
Section: 3-Mineral fuels & Lubricants	0.9	0.3
Coal, coke and briquettes	0.2	0.1
Section: 4-Animal & Vegetable Oils & fats	0.9	0.3
Fixed vegetables & fats	0.9	0.2
Section: 5-Chemicals	1.7	2.7
Section: 6-Manufactured goods Classified chiefly by materials	44.5	40.8
Leather & manufactures thereof	5.4	5.7
Textile yarn & thread	1.8	0.7
Textile fabrics, Woven (other than cotton & jute)	0.8	0.3
Floor coverings	1.2	2.1
Cotton manufactures (excld. yarn and thread and clothing)	6.5	5.1
Jute manufactures (excld. twist and yarn)	1.6	2.8
Iron and steel	5.8	3.9
Non ferrous metals	1.1	1.9
Manufactures of metals	1.3	3.5
Section: 7-Machinery & Transport equipment	3.2	6.9
Section: 8-Misc. Manufactured Articles	3.4	12.2
Clothing etc.	1.1	8.0
Footwear	0.7	0.5
Total over all	100.0	100.0

Table 2 : Percentage share of existing commodity
heads in total import of India.

COMMODITY HEADS (According to RITC)	Percentage share in total trade	
	1968-79	1978-79
1	2	3
Section: 0 - Food	21.7	3.6
Dairy products & eggs	0.8	0.9
Cereals & cereal preparations	18.1	1.7
Fruits & Vegetables	2.5	0.8
Section: 1-Beverages & Tobacco	0.06	0.01
Section: 2-Crude materials inedible except fuels	10.2	8.6
Pulp and waste paper	0.6	0.6
Wool and other animal hair	0.6	0.5
Cotton	4.8	0.4
Jute	0.5	0.02
Crude fertilisers & minerals excl. coal, petroleum crude etc.	2.0	1.7
Section: 3-Mineral fuels & Lubricants	4.5	24.8
Petroleum crude etc.	2.9	18.4
Section: 4-Animal & Vegetable oils & fats	1.0	8.4
Section: 5-Chemicals	15.1	12.3
Chemical elements & compounds	4.4	3.33
Dyeing, tanning & colouring materials	0.5	0.3
Fertilisers manufactured	7.4	5.5
Plastic materials regenerated	0.8	1.0

1	2	3
contd.		
Section: 6-Manufactured goods classified chiefly by materials	13.4	21.9
Paper, paper board	1.0	1.5
Textile yarn, fabrics etc.	0.4	0.7
Iron and steel	4.6	6.9
Copper	2.1	1.5
Nickel	0.3	0.4
Aluminium	0.2	0.5
Lead	0.3	0.2
Zinc	1.1	0.5
Tin	0.6	0.4
Manufactures of metals	0.7	0.7
Section: 7-Machinery & Transport equipment	27.7	18.1
Machinery other than electric	19.9	11.1
Electric machinery etc.	4.5	3.0
Transport equipment	3.5	4.0
Section: 8-Miscellaneous Manufactured Articles	1.3	2.1
Professional Scientific instruments etc	0.9	1.8
Over all :	100.0	100.0

Table 3 : Percentage coverage of the commodity
basket in existing index numbers on
base 1968-69

Year	Percentage coverage	
	Export	Import
1968-69	91.9	89.0
1969-70	89.4	70.8
1970-71	88.8	91.3
1971-72	89.2	92.0
1972-73	84.4	91.4
1973-74	87.3	92.9
1974-75	87.4	92.5
1975-76	86.5	93.9
1976-77	81.9	90.1
1977-78	71.7	85.9
1978-79	65.1	82.4

(ii) Adoption of ITC-R.2 with effect from 1977-78
created difficult problems for the matching of items
after March 1977 with those in the original basket.
Actually, no matching was possible where the denomi-
nations of quantity have undergone changes.

1.2 Govt. of India Resolution

In view of the above, it was felt that the existing
index numbers on base 1968-69 did not correctly reflect
the trends in the quantum and in the Unit-value of India's
foreign trade and hence in the derived terms of trade.

Accordingly, the Government of India in the Ministry of Commerce set up a Technical Committee in June 1980 to re-examine the methodology of construction of existing index numbers of foreign trade. The terms of reference of the Committee were :-

>"1. To improve the current methodology of computing indices of foreign trade statistics of India.
>
> 2. To revise the base year for the computation of foreign trade indices."
>
> (Vide Govt. of India Resolution No. 4(10)/ 80-EPL dated the 5 June, 1980, reproduced in Annex II)[2,3]

1.2.1 The first meeting of the Committee took place on 27 June 1980. Later on, with a view to studying the effects of different index number formulae and also the difference between indices on fixed base and chain base systems, the Committee requested the Indian Institute of Foreign Trade (IIFT) to carry out a number of exercises utilizing the export trade data available on their magnetic tape. As the IIFT did not have their own computer the work was done on the computer of the Planning Commission. The acquisition of documents on the methodology followed in some advanced countries also took considerable time. Due to all these

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2. The post of the Director General, Commercial Intelligence & Statistics, was lying vacant uptil 29 August 1980. Shri D.C. Datta joined as the Director General, Commercial Intelligence & Statistics, on 30 August 1980.

3. Dr. S.V. Rao was posted as Joint Adviser in the Planning Commission till 12 September 1980. He continued to be a Member of the Committee, after he re-joined as Professor of Economics in his parent department namely, the Department of Co-operation and Applied Economics, Andhra University.

reasons the Committee could not complete their deliberations within the period of 4 months stipulated in the aforesaid Resolution, and at its request, the time of the Committee was extended by another 2 months vide Govt. of India Resolution No. 4(10)/80-EPL dated 12.11.80 (Annex III).

1.3   Modus operandi of the Committee

All the meetings of Committee were held at the office of the D.G.C.I.& S., Calcutta, who is the Member-Secretary of the Committee. The first meeting was held on 27 June 1980 where inter alia it was decided to study the methodology followed by a few developed countries of the world, viz. USA, U.K., Canada, GDR and Japan. Accordingly, the Chairman requested the appropriate official agencies in these countries for copies of publications giving the details of the methodology followed by them.

1.3.1 The second meeting was held on 30 August 1980 and at this meeting it was decided that the base of the proposed series should be 1978-79. In the meanwhile IIFT was requested to carry out some exercises as mentioned in para 1.2.1.

1.3.2 Besides, the above calculations, all other exercises like, examination of homogeneity of commodities included in the present series, study on wholesale price index numbers and Export Index nos. of Unit-value etc., undertaken by the Committee were carried out by the office of the D.G.C.I. & S.

1.3.3 The third meeting of the Committee took place on 20 and 21 November 1980 after receipt of the computer outputs from IIFT. Most of the major decisions of the Committee like selection of formulae were reached in this meeting. The report was then drafted and circulated to the members. It was then finalised at a meeting held on 19 and 20 December, 1980.

CHAPTER - 2

EXISTING SERIES OF INDEX NUMBERS
AND THEIR LIMITATIONS

As stated earlier, monthly and annual index numbers
of unit values and of the quantum of India's foreign trade
are constructed, separately for exports and imports, for
different classes of commodities. Three types of terms of
trade are also calculated, viz. the net terms of trade,
the gross terms of trade and the income terms of trade.
Below is given some details of the construction of the
index numbers of the existing series.

2.0.1 The main sources of Foreign Trade Data are the
'Shipping bills' and 'Bills of entry' in case of exports
and imports respectively. These data are processed and
published in the D.G.C.I. & S. monthly publication, "Monthly
Statistics of the Foreign Trade of India-Vols I & II".
In each monthly publication, besides data for the current
month, cumulative data (both quantity and value) from
April to the concerned month are also given. These data
are published according to commodities with countrywise
shares. Commodities have been classified by 7-digit codes
of the Indian Trade Classification Revision 2(ITC-Rev.2)
which is based on the International Trade Classification,
namely, SITC-Rev. 2. ITC-Rev. 2 has been implemented w.e.f.
April 1977. Prior to April 1977, the Revised Indian Trade
Classification (RITC) used to be followed. In RITC, more
than 5000 commodities have been classified whereas in
ITC-Rev. 2 more than 6660 commodities have been classified.
For compilation of Index numbers, data published in the
'Monthly Statistics of the Foreign Trade of India' are
used.

2.0.2   For construction of Index numbers 489 commodities
(as per RITC) are chosen for exports which accounted for
92 per cent of the value of exports during the base year
(1968-69). In case of Imports. 511 commodities (as per
RITC) are chosen which accounted for 89 per cent of imports
during 1968-69. Due to changes in pattern of India's
foreign trade the percentage coverage of commodities included
for construction of Index numbers showed a downward trend
especially for exports. In 1978-79, the coverage was only
65.1 per cent in case of exports and 82.4 per cent in case
of imports.

2.0.3   Paasche formula is adopted for the construction of
Unit-value index numbers whereas Laspeyres formula is adopted
for the construction of quantum index numbers. In actual
construction, the quantity index numbers are derived by
dividing the value index numbers by the corresponding unit
value index numbers. As all the commodities entering into
the foreign trade of India can not be taken into account,
adjustments are made for incomplete coverage. This is based
on the assumption that average change in Unit-value for all
the items. (sampled and non-sampled) within a "block" (i.e.,
cluster of commodities believed to be reasonably homogeneous)
is equal to that of the sampled commodities within the same
block.   In the construction of the present series each major
commodity head for which the index numbers are published is
treated as a block for such adjustment (see para below).

2.0.4   Besides the sectional (as per RITC) Index numbers,
index numbers for major commodity heads (26 for exports
and 27 for imports) are also constructed for each type of
trade and published in the DGCI&S weekly organ, the Indian
Trade Journal.

2.0.5 Some of the major limitations of the present series mentioned earlier may be recalled at this stage.

2.0.6 First, the base year (1968-69) is rather old and the pattern of India's foreign trade has undergone substantial changes in the seventees. As a result, the commodity basket considered in the index number computations does not cover a sufficiently high percentage of the total value of trade particularly for exports (vide Table 3 of Chapter 1).

2.0.7 Second, there are serious problems of matching commodities in the period after March 1977, when the ITC-Rev 2 is used, with commodities in the basket considered for index computations which refer to the previous RITC.

2.0.8 Another limitation is the time-lag in the availability of the Index numbers. Due to various reasons there are inordinate delays in the availability of foreign trade statistics based on which index numbers are constructed. At present this delay is about 12 months and about another month is taken for the manual computation of indices bringing the total timelag to 13 months.

2.0.9 There are, however, other limitations of the existing series and other related issues which drew the attention of the Committee. For the sake of convenience, these matters are listed below and discussed in the subsequent chapters:

> (i) The present format of presentation of the index numbers needs a revision. The scheme of classification of commodities may be made more useful for economic analysis and policy making.

(ii) Index numbers may also be prepared on a quarterly basis.

(iii) Construction of bilateral index numbers and bi-lateral terms of trade is not done on any regular basis.

(iv) Attempts should be made to carry out some Seasonal adjustments of the existing series of index numbers.

(v) In view of rapid changes in the pattern of trade the question arises as to whether the existing index number formulae are fully appropriate and whether indices on the chain base system would not be more suitable than the existing ones on the fixed base system.

(vi) No revision of the index numbers is carried out even though the foreign trade data are revised after their first publication based on late returns from the Customs Houses.

(vii) In view of the great delay in the availability of the index numbers, it might be desirable to compute "quick indices" based on a small number of items.

(viii) Not much attention is being paid at present to the question of homogeneity of each sampled commodity, that is, of the comparability of Unit-values over time.

(ix) The adjustments for incomplete coverage are being made within the major heads for which index numbers are published. It is desirable to carry out such adjustments within narrower and more homogeneous clusters of commodities.

REVISION OF THE EXISTING SERIES:
DETAILED RECOMMENDATIONS

After studying in detail the methodology followed
for constructing the existing series of index numbers,
the Committee felt that this series needed to be replaced
by a new series. In order to choose the appropriate metho-
dology for the new series, the Committee kept in view the
various limitations of the present series mentioned in
Chapter-2 and the practices followed in some of the advan-
ced countries (Vide Annex IV). It also carried out a
number of exercises before deciding on certain aspects of
the methodology, e.g. the formula to be used for computing
the index numbers. The recommendations of the Committee
for the methodology to be followed in the new series are
given in this chapter, arranged under different heads.
The considerations leading to these recommendations are
also presented in brief.

3.1   Choice of base period:

The base year of the existing series is 1968-69,
which is more than a decade old. In view of marked changes
in the composition of India's foreign trade, it is necessary
to choose a more recent base for constructing the new
series. Moreover, the system of commodity classification
has undergone a major revision with effect from April,
1977, when the RITC gave way to the ITC-Rev 2. A period
earlier than 1977-78 could not obviously be recommended
as the base year of the revised series as there are serious

difficulties in matching items in the two systems of
classification. The Committee noted that although the
ITC-R2 was implemented w.e.f. April 1977, its implemen-
tation at the source points (e.g. the Customs Houses)
took a long time due to a number of reasons. Also, the
statistical personnel at the Customs Houses and at the
DGCI&S took some time to get themselves familiarised
with the new classification. Therefore, the foreign trade
statistics of the year 1977-78 may be prone to errors
of classification while the trade data for 1978-79 onwards
are found to be quite satisfactory. The year 1978-79
happens to be the latest fiscal year for which the trade
data were available to this Committee. The Committee
examined the data (especially the unit-values) for the
different years and came to the conclusion that the year
1978-79 was not abnormal in any way, at least so far as
India's foreign trade is concerned. The Committee therefore,
recommends the year 1978-79 as the base year of the
proposed series.

3.1.1. The Committee also recommends that as a matter of
policy the base year of the series should be shifted in
future broadly at five-year intervals in view of rapid
changes that have occurred in the past and are expected
to occur in the future in the foreign trade of India. It
may be noted that many advanced countries have been follow-
ing such practice.

3.2   Selection of Commodities:

As already stated, the existing commodity baskets
consist of 489 commodities in respect of exports and 511

commodities in respect of imports. These baskets have, of course, become outdated with the passage of time and their percentage coverage in the value of total trade has fallen considerably especially for exports (Vide Table 3 in Chapter-I). Moreover, the commodities were classified as per the RITC system and the revised commodity basket must be based on the later ITC-Rev.2 system.

3.2.1 The Committee recommends the two commodity baskets presented in Annexes V & VI for the construction of the new series of index numbers for exports and imports. The total number of commodities selected is 728 in case of exports and 623 in case of imports. The corresponding coverages in the total value of India's foreign trade during 1978-79 are 85 per cent and 86 per cent respectively. The table 4 appended below gives the position for each of the sections of the ITC - Rev.2, excluding Section 9.

Table : Percentage coverage of the recommended commodity baskets in total value of India's trade during 1978-79.

ITC-Rev.2 Sections	Exports		Imports	
	No. of sampled commodities	Coverage (%)	No. of sampled commodities	Coverage (%)
1.	2.	3.	4.	5.
Sec. 0	91	97	37	86
Sec. 1	8	97	1	52
Sec. 2	66	89	53	1

LIST OF SAMPLED COMMODITIES AS PER
7-DIGIT OF ITC-REV 2 UNDER EXPORT FOR
PROPOSED SERIES (BASE 1978-79 = 100)

Section: 0

01 Meat & Meat Preparations

0112000	0118901
0118909	

03 Fish and fish preparations

0341003	0360004
0342003	0360006
0350302	0360007
0360001	0372001

04 Cereals and cereal preparations

0412001	0460100
0412002	0484201
0422102	0488001
0422200	0488002

054 & 056 Vegetables

0541002	0561002
0545101	0561003
0545102	0565103
0548103	

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Section: 0 contd.

057 & 058 Fruits and nuts

0571100	0579703
0574000	0579704
0577301	0583001
0577302	0585400
0577902	0585701
0577903	0586301
0579701	0589101

061.1 & 061.2 Sugar

0612003	0615001

071 Coffee

0711101	0711105
0711102	0711106
0711103	0712001
0711104	

074 Tea

0741001	0741005
0741002	0741006
0741003	0741007
0741004	

the behaviour of unit values over time was examined for
an assessment of the degree of homogeneity of the commo-
dities. The Committee's views in this regard were shaped
by a careful perusal of the documents received from UK,
USA and Canada (Vide Annex IV). In all these countries,
great deal of attention is paid to the consideration of
homogeneity mentioned above, and the percentage coverage
of sampled commodities is sometimes quite low. Thus,
the current US indices for exports and imports have a
coverage not exceeding 25 per cent for "finished manu-
factures" in recent years; the overall indices for exports
have coverage between 45 and 50 per cent, and those for
imports 50 to 65 per cent.

3.3.   Choice of formula, including choice between fixed base and chain base systems:

With a view to arriving at a decision in these
matters the Committee got some exercises carried out by
the Indian Institute of Foreign Trade (IIFT), New Delhi.
The IIFT had the complete data on India's exports at the
commodity-country level, on magnetic tape for each of the
years 1968-69 through 1975-76. The Committee requested
it, among other things, to compute indices of quantum
and Unit-value for all the years on base 1968-69 = 100,
separately by Laspeyres, Paasche and Fisher formulae and
also on the fixed and the chain base systems. The object
was to get some idea of the variation among different for-
mulae and between the fixed and chain base indices, when
applied to Indian data. It may be noted that the exercise
was based on export statistics only and it was not possible
to do any parallel study utilising the statistics of import
trade.

Table 5 and 6 set out the most important results of
this exercise. Section level indices are not presented for
considerations of space.

Table 5 :   Unit value index numbers (1968-69 = 100)
            based on 1779 commodities of India's
            exports computed by different formulae.

Year	Chain base indices			Fixed base indices		
	Laspeyres	Paasche	Fisher	Laspeyres	Paasche	Fisher
1.	2.	3.	4.	5.	6.	7.
1968-69	100	100	100	100	100	100
1969-70	118	103	110	118	103	110
1970-71	123	104	113	113	105	109
1971-72	121	100	110	110	101	106
1972-73	144	113	127	131	118	124
1973-74	181	137	157	158	146	152
1974-75	225	177	200	198	179	189
1975-76	236	175	203	201	195	198
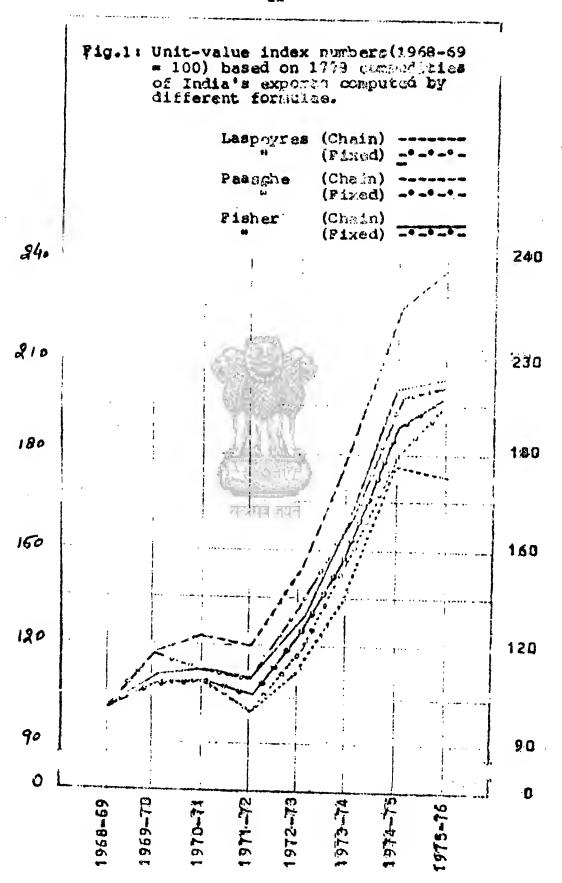
Table 6 :   Quantum index numbers (1968-69 = 100)
            based on 1779 commodities of India's
            exports computed by different formulae.
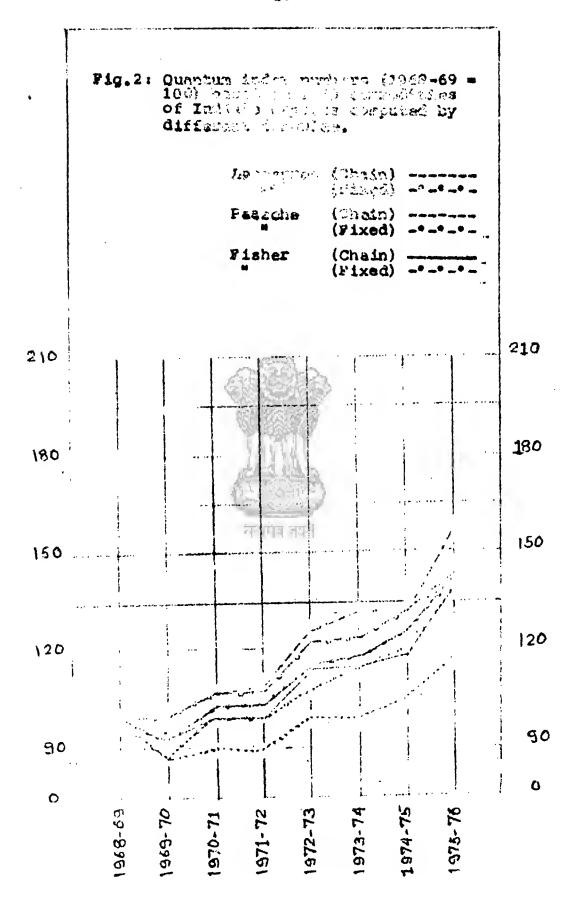
Year	Chain base indices			Fixed base indices		
	Laspeyres	Paasche	Fisher	Laspeyres	Paasche	Fisher
1.	2.	3.	4.	5.	6.	7.
1968-69	100	100	100	100	100	100
1969-70	100	87	93	100	87	93
1970-71	107	91	99	107	99	103
1971-72	109	90	99	108	99	104

1.	2.	3.	4.	5.	6.	7.
1972-73	126	100	113	122	110	116
1973-74	131	100	115	124	115	119
1974-75	132	105	119	132	120	126
1975-76	158	118	138	144	140	142

3.3.1   The results in Tables 5 and 6 suffer from two serious
limitations, if one wants to infer from them the type of
differences that would arise if India's indices for export
trade were computed in different ways. First, the indices
are based on all the 1779 items for which quantity data
in unchanging units were available for all the years, and
these items included many which would not pass the test of
homogeneity. Second, no adjustment was made for excluded
items as is made in the construction of the official index
numbers. Hence, the results in Tables 5 and 6 should be
taken as broadly indicative of the effects of different
formulae.

3.3.2   The table shows in a striking manner that the choice
of formula has a marked effect on the value recorded by the
index number and that, further, if Laspeyres or Paasche
formula is used, the difference between fixed base and chain
base indices could also be considerable (see also Figs. 1
and 2).

3.3.3   Keeping these in view along with the well-known
considerations pointing to the advantages of the Fisher
formula over Laspeyres' or Paasche's and of the Chain base

Fig.1: Unit-value index numbers(1968-69
= 100) based on 1779 commodities
of India's exports computed by
different formulae.

Laspeyres	(Chain)	----------
"	(Fixed)	-•-•-•-
Paasche	(Chain)	----------
"	(Fixed)	-•-•-•-
Fisher	(Chain)	═══════
"	(Fixed)	-•-•-•-

Fig.2: Quantum index numbers (1968-69 = 100) based on all commodities of India's exports computed by different formulae.

Laspeyres	(Chain)	-------
"	(Fixed)	-·-·-·-
Paasche	(Chain)	-------
"	(Fixed)	-·-·-·-
Fisher	(Chain)	———
"	(Fixed)	-·-·-·-

system over the fixed base system in a situation where the composition of trade is changing appreciably over the years, the Committee makes the following recommendations:-

a) Fisher's formulae should be followed for constructing the indices of the new series.
The index for Unit-Value should be directly computed while the quantum index number should be derived from it, as at present.

b) The fixed base system may be adopted if resource proves to be a serious constraint, otherwise the Chain base system should be adopted.[4]

c) The Laspeyres type quantum indices and Paasche type Unit-value indices should continue to be computed - these would not require any extra effort - and may be passed on to the CSO for their use.

3.4   Adjustment for incomplete coverage:

The Committee examined the existing method for adjustment for incomplete coverage. This is based on the assumption that the Unit-value index computed from the sampled commodities within each homogeneous "block" (i.e., cluster of commodities) is applicable to the aggregate of all (sampled plus non-sampled) commodities of

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4.   It is recognised that the change over from presently used formulae to Fisher's formulae would increase the work-load to some extent, even if the fixed base system be adopted.

that "block". While this approach is entirely reasonable - it is also currently followed in some of the advanced countries - it was felt that at present the number of "blocks" (26 for exports and 27 for imports) is rather too small and the "blocks" not sufficiently homogeneous, for this approach to yield satisfactory results. The Committee recommends that the list of "block" be expanded to ensure greater within-block homogeneity. Annex VII gives the list of 73 "blocks" actually recommended for computation of export indices and the list of 77 "blocks" recommended for computation of import indices.

3.5   Format for presentation of Index Numbers:

The Committee recognised that the existing format for presentation of foreign trade index numbers does not allow for sufficient disaggregation and needed elaboration and revision to make the index numbers more useful to economic analysts and policy-makers. It took into account the format used for the official wholesale price index numbers and also the categories mentioned in various documents and publications, e.g. the Economic Survey. Homogeneity of description was, of course, an important criteria, and another was the contribution to total foreign trade of the country.

3.5.1 The Committee finally recommends the two formats presented in Annexes as VIII & IX, one for export indices and the other for import indices. The proposed formats consist of 36 Major heads under exports, as against 26 heads in the existing series, and 41 Major heads under

imports as against 27 in the existing series. The section-
al indices should continue to be published in addition to
the index numbers for the Major heads.

3.5.2 The Committee recognised that besides the index
numbers as per proposed format, there may be considerable
demand for index numbers for particular items like Cashew
nuts or the items under public distribution. Such indices
may be constructed separately and furnished to the appro-
priate Ministries on demand.

3.5.3 It was also felt that it would be most useful to
have index numbers for economic classes of commodities,
say, by stage of processing or by end-use. Such indices
are prepared in some of the advanced countries. The Commi-
ttee, however, felt that such computation is not possible
with the existing classification of commodities and any
attempt is bound to give only very rough results. The
Committee, therefore, recommends that the D.G.C.I. & S.
should keep the construction of such indices as a long-term
goal and take steps necessary in this regard in consultation
with the users.

3.5.4 The three types of terms of trade should be computed
and published as at present. It is not possible in the
existing Indian situation to compute these terms of trade
on a balance of payments basis, as is done in UK, in accor-
dance with standard international practice.

3.6   Linking factor:

The Committee recommended that the first monthly
index on the new system be computed for April, 1980,
while the current series would continue till March '80.
Thereafter, only annual indices of the current series
would be computed for the years 1979-80 and 1980-81.
The final linking factor for extension of the proposed
series backwards (Sectionwise etc., to the extent possible)
would be derived (by ratio or regression method) from 3
pairs of annual indices, namely, those for the years
1978-79, 1979-80 and 1980-81, of the two series.

3.6.1 The monthly indices of the new series for the year
1979-80 may not be directly computed but may be estimated
from the Monthly indices of the existing series using
provisional linking factor based on the annual indices
for 1978-79 and 1979-80 of the two series and these esti-
mates may be reviewed subsequently when the final linking
factor has been obtained. Monthly indices during 1978-79
on the new series may also be estimated, if necessary,
in a similar manner.

3.7   Quarterly Indices:

Many advanced countries publish quarterly indices
in addition to monthly and annual ones. This practice
may be adopted in India also. The quarterly indices would
tend to be less erratic than monthly figures. The Laspey-
res type quarterly indices of quantum and Unit-value may
be computed as simple averages of the corresponding monthly

indices. Paasche type quarterly indices of Quantum and
Unit-value may thereafter be derived by dividing the
quarterly value indices by the appropriate Laspeyres in-
dices. Fisher type quarterly indices for both quantum
and Unit-value may. therefore, be computed without
much effort.

3.8   Periodic revision of indices in-
corporating late returns:

One weakness of the existing series of index numbers
of foreign trade is that the monthly indices are based on
returns which are somewhat incomplete. The annual indices
are, however, prepared from relatively complete data. The
degree of incompleteness of return's has varied in recent
years, being smaller when the delay in data compilation
is longer. Table 7 below compares three sets of figures
for total value of India's exports and imports for each
of the years 1976-77 and 1977-78;

i)   total of the values of monthly trade over the
twelve months according to returns used for
computing monthly indices; (col. 2);

ii) the annual value of trade as per returns used
for computing the annual index (col. 3); and

iii) final value of trade during the year (col. 4).

3.8.1 The percentage differences in the last two columns
bear out the comments made above. In any case, the monthly
indices and the annual indices are at present inconsistent.

Table 7 : Table showing the extent of
revision of total value of
foreign trade data

(Figures in lakhs)

Year	Total trade in Rs. lakhs based on			Percentage difference	
	12-monthly figures	Cumulative figures for the year	Revised figure for the year	$\frac{(2)-(4)}{(4)} \times 100$	$\frac{(3)-(4)}{(4)} \times 100$
1.	2.	3.	4.	5.	6.

E x p o r t s

1976-77	45,30,52	49,67,83	51,45,78	12.0	3.5
1977-78	44,49,61	53,63,18	54,04,26	17.7	0.8
1978-79	45,44,88	57,07,67	57,26,26	20.6	0.3

I m p o r t s

1976-77	44,59,98	50,15,15	50,73,95	12.1	1.2
1977-78	53,39,95	60,26,01	60,25,29	11.4	0.01
1978-79	62,78,03	67,88,64	68,14,30	7.9	0.4

3.8.2   It may be mentioned that while the final figures for the total value of trade are published at some later date, the item-wise final figures for value and quantum of trade are never released at all.

3.8.3   The Committee examined this question and recommends
that:

> The monthly and annual indices may be computed
> and released as at present, and the quarterly
> indices derived from the monthly indices as
> suggested above. But, at some later date, when
> complete returns have become available, revised
> i.e. final monthly/quarterly/annual indices should
> be published. The effect of such revision is likely
> to be small so far as the Unit-value indices are
> concerned. They may be assumed to need no revision
> at all; only the quantum indices would be adjusted,
> dividing the revised or final indices of value of
> trade by the original indices of Unit-value.

3.9   Seasonal adjustment

The Committee observed that some advanced countries
were regularly publishing seasonally adjusted index numbers,
using, say, the X-11 variant of the US Bureau of the Census
Method II seasonal adjustment programme. For the sake of
simplicity, the Unit-value indices are generally left un-
adjusted; and the quantum indices are adjusted either
directly by applying the seasonal adjustment programme to
these indices or indirectly by adjusting the raw value series
and then dividing the adjusted value indices by the original
(unadjusted) indices of Unit-value. The Committee recommends
that attempts be made to apply such seasonal adjustment
programmes to the Indian indices of foreign trade, especially

for classes of commodities markedly affected by seasonal
fluctuations. Of course, such exercises must be based
on monthly indices that have been revised to take account
of late returns. Technical papers may be brought out
presenting deseasonalised indices on base 1968-69 = 100
for the past decade or so. So far as the proposed series
on base 1978-79 is concerned, such work can be profitably
taken up only after indices have been prepared for a
few years, but the study on indices of the existing series
could throw light on seasonal movements in recent years.

3.10   Bilateral index numbers:

From the policy-makers' point of view, the need
for computing bilateral index numbers and the bilateral
terms of trade cannot be overemphasised. The Committee
was informed that in the past such indices were occasion-
ally computed for a few selected countries. The work was
done manually. As the labour of manual computation was
extremely heavy, the D.G.C.I. & S at one stage planned
to do such work through Unit Record Machines, on a more
or less regular basis. The Committee noted that due to
shortage of machine hours no progress could be made in
implementing this idea. Considering the great importance
of bilateral index numbers and bilateral terms of trade,
the Committee recommends that such work be taken up on
a regular basis and that adequate resources be made avai-
lable to the DGCI&S.

3.11   Possibility of "Quick" indices:

In view of the existing time lag in the availability of index numbers, the Committee explored the possibility of constructing "quick indices" based on a small number of items, which could be brought out within a few months. Some exercises were carried out through the IIFT at New Delhi. The results of these exercises are presented in Annex X. In the main, this annex gives the index numbers of Unit-value and quantum of India's export trade, based on the 50 most important commodities, separately for the years 1969-70 through 1975-76 with years 1968-69 as base. As explained in the annex, these indices need not agree very closely with those of the existing series. For one thing, no adjustment for incomplete coverage was made in computing these "quick indices". Nevertheless, the results seemed to be encouraging in the sense that year-to-year changes seemed to be measured fairly well on the basis of a sample of 50 items. The Committee, however, noted that the special compilation of data for even 50 commodities would involve the handling of practically all the records. The idea of a quick index does not seem to be feasible unless an economical scheme of sampling the records is worked out and proves to be satisfactory. With the limited time at its disposal, the Committee could not pursue the matter further.

3.12   Scrutiny of unit values and specification prices:

From the documents received from the advanced countries (Vide Annex IV) the Committee felt that these countries

were continually checking the Unit-values, studying their
time trends, comparing them with quotations from other
sources etc., with a view to ensuring the homogeneity
and intertemporal comparability of the itemwise data.
Much use is made in this connection of "specification
prices", which are prices quoted for a detailed commodity
specification. The commodity specification is typically
held constant over time with respect to physical descri-
ption and terms of sale (e.g. size of transaction, type
of customer and credit terms). In Canada, the official
indices of foreign trade are based on unit values for
relatively homogeneous commodities and (proxy) specifi-
cation prices (mainly wholesale prices from domestic and
foreign sources) for heterogeneous commodities. In Fede-
ral Republic of Germany and Japan both types of indices
are computed. The USA compiles, in addition to Unit-
value indices, specification prices indices, which acco'
for about one thirds of the value of their exports but
only 14% of their imports. In some countries indices are
based on data for commodity-country cells; obviously such
data would be more homogeneous than commoditywise data
totalled over all countries.

3.12.1 The Committee deliberated at length on the problem
of homogeneity of selected commodities, and the associated
problem of technical changes in the commodities over time.
In the limited time at its disposal it could do nothing
to identify sources of "Specification prices" which could
be used as checks on or supplementary to the Unit-values
derived from foreign trade statistics.

3.12.2 To give an idea of the magnitude of fluctuations in Unit-values over time, presumably owing to heterogeneity of the commodities, the Unit-values for some sample commodities of the existing series are shown in Table 8 below for the years 1968-69 to 1975-76. It will be seen that Unit-values fluctuate very widely from year to year. Obviously, index numbers based on such data are very crude.

<div align="center">

Table 8 : Unit-Values of specific sampled
commodities as per RITC – Codes

</div>

Code (sample)	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
7143002	708	2278	2502	3997	1369	5396	25428	35334
7158201	13492	6476	26784	83383	1996	11515	16422	76300
7171506	276982	49175	122250	49577	274537	4107	1013	179160
7185103	11206	6316	2656	8900	20990	8701	8323	6582
7191503	1505	839	837	10888	855	851	2681	1343

(Unit-Values are in Rs. per unit as per RITC)

3.12.3 The Committee recommends that a special cell be started in the D.G.C.I. & S. for carrying on technical studies for scrutinizing the Unit-values of sampled commodities and for locating and utilizing suitable specification prices of items entering India's foreign trade.

3.13 Reduction of time-lag and problem of resources:

As already mentioned in Chapter 2, the time-lag
in the availability of the index numbers is currently
about a year. But this is almost entirely due to the
delay in the receipt of primary data from Customs and
in the compilation of export and import trade statistics
at the DGCI&S. Only about 4 weeks are taken for manual
computation of the index numbers for a given month once
the commoditywise quantity and value data have become avai-
lable. On occasions, the limited staff engaged in manual
computation of index numbers are diverted to other special
computations, resulting in further delays. The Committee
is aware that another committee is currently looking into
the problem. Nevertheless, it cannot help urging that some
positive steps to cut down the delays must be taken. It
may be noted that in UK the trade statistics as well as
the index numbers are published within a fortnight of the
end of the month to which the figures relate. This is
inevitably linked up with the question of resources and
the Committee recommends that the DGCI&S be given adequate
resources to speed up the work and to take up the various
additional items of work suggested in this report. The
implementation of the new series of index numbers on base
1978-79 using Fisher's formula (fixed base) would in itself
require a number of extra hands for manual computation. If
these are not provided, the backlog would go on accumulating.

CHAPTER - 4

SUMMARY OF RECOMMENDATIONS

4.1   For the sake of convenience, the recommendations made in the preceding chapter are presented here, very briefly. References are made to the corresponding paragraphs in chapter 3.

4.2   Choice of base period

The Committee recommends the year 1978-79 as the base year of the revised series (sub para 3.1.0).

4.2.1   The Committee also recommends that as a matter of policy the base year of the series should be shifted in future broadly at five-year intervals (sub para 3.1.1).

4.3   Selection of Commodities

The Committee recommends the two commodity baskets for the construction of the new series of index numbers presented in Annexes V and VI respectively for exports and imports. The total number of commodities selected is 728 in the case of exports and 623 in the case of imports (sub para 3.2.1).

4.4   Choice of formula including choice between fixed base and chain base systems

Fisher's formula should be followed for constructing the indices of new series. The index for Unit-value should be directly computed while the quantum index should be derived from it, as at present (sub para 3.3.3(a)).

4.4.1   The fixed base system may be adopted if resource proves to be a serious constraint, otherwise the chain base system should be adopted (sub para 3.3.3(b)).

4.4.2   The Laspeyres type quantum indices and Paasche
type unit value indices should continue to be computed.
(sub para 3.3.3 (c)).

4.5   Adjustment for incomplete coverage

The Committee recommends that for adjustment of
incomplete coverage the existing lists of "blocks" (i.e.
clusters of commodities) be expanded to ensure greater
within block homogeneity. Annex VII gives the list of
73 "blocks" actually recommended for computation of
export indices, and the list of 77 "blocks" recommended
for computation of import indices (para 3.4).

4.6   Format for presentation of index numbers

The Committee recommends the two formats presented
in Annexes VIII and IX, one for export indices (consisting
of 36 major heads) and the other for import indices
(having 41 major heads). The sectional indices should
also be published in addition to the index numbers for
the major heads (sub para 3.5.1).

4.6.1   Indices for particular items like cashewnuts or
items under public distribution may be separately constru-
cted and furnished to the appropriate Ministries on
demand (sub para 3.5.2).

4.6.2   The D.G.C.I. & S. should keep the construction
of index numbers for economic classes of commodities
(say, by stage of processing or by end-use) as a
long-term goal (sub para 3.5.3).

4.6.3 The three types of terms of trade should be computed and published as at present (sub para 3.5.4).

4.7   Implementation of new series & Linking factor

The first monthly index on the new system should be computed for April 1980, while the current monthly series should continue till March 1980 (para 3.6).

4.7.1 Annual indices of the current series should be computed for the years 1979-80 and 1980-81. The final linking factor for extension of the new series backwards (sectionwise etc., to the extent possible) would be derived, by ratio or regression method, from 3 pairs of annual indices, viz. those for the years 1978-79, 1979-80 and 1980-81 of the two series. A provisional linking factor may be obtained using the indices for 1978-79 and 1979-80 (para 3.6 and sub para 3.6.1).

4.7.2 The monthly indices of the new series during 1979-80 (or during 1978-79) may be estimated from those of the existing series using the provisional/final linking factor (sub para 3.6.1).

4.8   Quarterly indices

Quarterly indices may be published in addition to monthly and annual indices. These may be derived from the monthly indices without much effort (para 3.7).

4.9   Periodic revision of indices incorporating late
        returns

        The Committee recommends that revised monthly,
quarterly and annual indices should be published at
some later date when complete returns have become avail-
able. The Unit-value indices need not be revised at all,
and only the quantum indices would have to be adjusted
(sub para 3.8.3).

4.10   Seasonal adjustment

        The Committee recommends that attempts be made
to apply seasonal adjustment programs to the monthly
indices of foreign trade and to bring out technical papers
containing seasonally adjusted index numbers.

4.11   Bilateral index numbers

        The Committee recommends that the computation of
bilateral index numbers and of bilateral terms of trade be
taken up on a regular basis and that adequate resources
be made available to the DGCI&S (para 3.10).

4.12   Scrutiny of unit values and specification prices

        The Committee recommends that a special cell be
started in the DGCI&S for carrying on technical studies
for scrutinizing the unit values of the sampled commodi-
ties and for locating and utilizing suitable specification
prices of commodities entering India's foreign trade
(sub para 3.12.3).

4.13   Reduction of time-lag and problem of resources

The Committee urges that some positive steps
be taken to cut down the time-lag in the availability
of the index numbers. The Committee recommends that
the DGCI&S be given adequate resources to speed up the
work and to take up the various additional items of
work suggested in this report. (para 3.13).

CHAPTER - 5

ACKNOWLEDGEMENTS

The Committee could not have discharged its responsibility without the valuable co-operation from many institutions and individuals, and it would like to record its appreciation of the help received from them.

5.0.1 The Committee is thankful to Mr. D.G. Elis Williams, Department of Industry and Trade, London (UK); Dr. Vincent P. Barbara, Director, Bureau of the Census, US Department of Commerce, Washington D.C. (USA); Dr. Yvon Goulet, Director, External Trade Division, Statistics Canada, Ottawa, Ontario (Canada); Dr. Pauli, Statistisches Bundesamt, Wiesbaden (Federal Republic of Germany); and Mr. S. Tanahashi, First Secretary (Commercial), Embassy of Japan at New Delhi for sending highly instructive documents on the methodology followed in their respective countries. The Committee's work was greatly facilitated by a perusal of these documents.

5.0.2 At the request of the Committee, the Indian Institute of Foreign Trade (IIFT), New Delhi carried out a number of exercises utilizing the commodity-cum-country export data for the years 1968-69 through 1975-76 which was available on magnetic tape. The exercises were done on the computer of the Planning Commission. The results of these exercises played a vital role in the deliberations of the Committee. The Committee wishes to record its appreciation of the services rendered by the IIFT as also by the Computer Centre of the Planning Commission. Thanks are particularly due to Shri S.K.Ghosh,

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Chief, Statistics and Shri S.K. Rao, Assistant Chief,
Statistics of the IIFT and to Shri D.D. Kanojia, Senior
Programmer of the Computer Centre of the Planning
Commission.

5.0.3   The Office of the DGCI&S naturally served as the
Secretariat of the Committee.   Shri M.C. Mookerjee,
Senior Dy. Director General, CI&S, was looking after
the work of DGCI&S when the Committee's work started.
The Committee is thankful to Shri M.C. Mookerjee for
his participation and helpful suggestions in the first
two meetings of the Committee and for his help in the
initial stages of the Committee's work.   Shri S.K. Nath,
Deputy Director General, CI&S, in charge of the Index
Number Section, attended all the meetings of the Committee
and assisted at every stage with his intimate knowledge
of the various issues discussed by the Committee.   He
rendered valuable assistance in carrying out all the exer-
cises undertaken by the Committee including the selection
of the commodity-baskets for the proposed series, and also
in drafting the report of the Committee.   The Committee is
glad to express its deep appreciation of the services
rendered by Shri S.K. Nath.   Thanks are particularly due
to the following members of the staff of the DGCI&S office:
Shri Amiya Das, Shri C.R. Banerjee, Shri Nagen Roy and
Shri B.N. Ghose who assisted at the various stages in
carrying out the exercises.

sd/- (N. Bhattacharya) Chairman	sd/- (V. Agnihotri) Member
sd/- (S.V. Rao) Member	sd/- (A.S. Prakasa Rao) Member
	sd/- (D.C. Datta) Member-Secretary

December 1980

PRESENT FORMAT FOR PUBLICATION OF CURRENT INDEX NUMBER
OF FOREIGN TRADE OF INDIA WITH BASE 1968 - 69 = 100

Commodity heads (as per RITC)

EXPORT	IMPORT
Section : 0 - Food	**Section : 0 - Food**
Fish & fish preparations	Dairy Products & eggs
Fruits & Vegetables	Cereals & cereal preparations
Sugar, Sugar preparations & honey	Fruits & Vegetables
Coffee	
Tea and Mate	
Spices	
Oilseed Cake	
Section : 1 - Beverages & Tobacco	**Section : 1-Beverages & Tobacco**
Section : 2 - Crude materials, inedible except fuels	**Section : 2-Crude materials, inedible except fuels**
Hides, skins & fur skins undressed	Pulp and waste paper
Wool and other animal hair	Wool and other animal hair
Cotton	Cotton
Crude fertilisers & minerals excld. coal, petroleum crude etc	Crude fertilisers & minerals excld. coal, petroleum crude etc.
Metalliferous ores & metal scrap	Jute
Crude animal & vegetable materials	
Section : 3 - Mineral fuels & lubricants	**Section : 3-Mineral fuels & lubricants**
Coal, coke and briquettes	Petroleum crude etc.
Section : 4 - Animal & Vegetable Oils & Fats	**Section : 4-Animal & Vegetable Oils & fats**
Fixed vegetable oils and fats	

Commodity heads   (as per RITC)

E X P O R T	I M P O R T

Section : 5 – Chemicals

Section : 5–Chemicals

Chemical elements & compound

Dyeing, tanning & colouring materials

Fertilisers manufactured

Plastic materials regenered

Section : 6 – Manufactured goods Classified chiefly by materials

Section : 6–Manufactured goods Classified chiefly by materials

E X P O R T	I M P O R T
Leather & manufactures thereof	Paper, paper board etc.
Textile yarn & thread	Textile yarn, fabrics etc.
Textile fabrics, woven (other than cotton & Jute)	
Floor coverings	
Cotton manufactures (excld. yarn and thread and clothing)	
Jute manufactures (excld. twist and yarn)	
Iron and Steel	Iron and Steel
	Copper
	Nickel
Non-ferrous metals	Aluminium
	Lead
	Zinc
	Tin
Manufactures of metals	Manufactures of metals

3

Commodity heads (as per RITC)	
E X P O R T	I M P O R T
Section : 7 – Machinery & Transport equipment	Section : 7–Machinery & Transport equipment
	Machinery other than electric
	Electric machinery etc.
	Transport equipment
Section : 8 – Misc. Manufactured Articles	Section : 8–Misc. Manufactured Articles
Clothing etc.	
Footwear	
	Professional Scientific instruments etc.
General Index Number	General Index Number

To be published in Part I Section I of the
Gazette of India

No.4(10)/80-EPL
Government of India
Ministry of Commerce & Civil Supplies
Department of Commerce
. . . . .

New Delhi, the 5th June,1980

RESOLUTION

Over the last ten years, India's foreign trade has
changed considerably and our present methodology of quantifi-
cation, specially in the construction of Index numbers that is
meant to indicate the trends, e.g., growth in volume of trade,
changes in terms of trade, changes in unit value etc. is prov-
ing inadequate for providing correct estimates for the coming
decade.

In order to re-examine these issues on an analytical and
technical level and to revise the base year for the computa-
tion of foreign trade indices, the Govt. of India hereby consti-
tutes a Technical Committee. The composition of the Committee
will be as follows :-

1. Prof. N. Bhattacharya,   ...Chairman
   Professor of Economics,
   Indian Statistical Institute Calcutta
   203, B.T. Road, Calcutta-36.

2. Shri A.S. Prakasa Rao, Joint Director   ...Member
   C.S.O., Sarder Patel Bhavan
   Parliament Street, New Delhi-110001.

3. Dr. V. Agnihotri,   ...Member
   Addl. Economic Adviser,
   Ministry of Commerce,
   Udyog Bhavan, New Delhi 110011.

4. Dr. S.V. Rao   ...Member
   Chief, International Trade Division
   Planning Commission
   Yojna Bhavan, New Delhi 110001.

5. Director General   ..Member—Secretary
   Commercial Intelligence and
    Statistics
   1, Council House Street
   Calcutta-1.

The terms of reference of the Committee will be as follows:-

1.   To improve the current methodology of computing
       indices of foreign trade statistics of India.

2.   To revise the base year for the computation of foreign
       trade indices.

The Committee would submit its report in four months.

                                     Sd/- M.L.Kapur
                                     Joint Director

                        O R D E R

       Ordered that a copy of the Resolution be communicated
to all concerned Ministries/Deptts. of the Govt. of India.

       Ordered also that the Resolution be published in the
Gazette of India for general information.

                                     Sd/- M.L.Kapur
                                     Joint Director

TO BE PUBLISHED IN PART 1 SECTION I
OF THE GAZETTE OF INDIA

No.4(10)/80-EPL
Government of India
Ministry of Commerce
Department of Commerce

New Delhi, the 12th November, 1980.

RESOLUTION

Reference is invited to this Ministry's Resolution
No.4(10)/80-EPL dated the 5th June, 1980 constituting a technical
committee to (i) improve the current methodology of computing
indices of foreign trade statistics of India and (ii) revise the
base year for the computation of foreign trade indices.

The Committee was required to submit its report in four
months time i.e. by October, 1980. As the Committee has not yet
completed its deliberations, it has been decided to extend the
term of the Committee by another two months.

The terms of reference and the composition of the
Committee will remain unchanged.

Sd/- M.L. Kapur
Joint Director

Ordered that a copy of the resolution be communicated to
all concerned Ministries/Deptt. of the Government of India.

Ordered also that the Resolution be published in the
Gazette of India for general information.

Sd/-M.L. Kapur
Joint Director

METHODOLOGY FOLLOWED IN SOME DEVELOPED COUNTRIES

1.   The present Committee requested the official agencies in
several countries for information on methodology followed for
constructing index numbers of foreign trade, and received in
response to its request a number of documents outlining such
methodologies. The following gives a brief description of the
procedures adopted in these countries in so far as they have
a bearing on the task before the present Committee. Only
bare outlines were available for Japan and West Germany and
these are presented in paragraphs 2 and 3. Greater details
for UK, Canada and USA are given in paragraphs 4, 5 and 6.

2.   Japan : The index numbers are based on 1961 items for
exports and 610 items for imports. Indices are currently
published with base 1975. Fisher's formula is used for compu-
ting unit value indices (on the fixed base system). The
quantum indices are obtained by dividing the value indices
by the unit value indices. Indices are obtained every month
and also on annual basis. Exports are valued at the f.o.b.
transaction values and imports at c.i.f. rates. The indices
are prepared for the following categories of items besides
for a large number of finer classes.

        Exports: food stuff, textiles, chemicals, non-metallic
minerals and manufactures, metals, machinery & equipment,
miscellaneous; and also for a special classification viz. food
stuff, raw materials and manufactures.

        Imports: food stuff, textiles materials, metallic
materials, raw materials, n.e.s., mineral fuels, chemicals,
machinery & equipment, miscellaneous; and also for a special
classification viz. food stuff, raw materials, mineral fuels
and manufactures. Indices for specification prices are
also computed separately.

Source: Materials received from Mr. S. Tanahashi, First
Secretary (Commercial), Embassy of Japan at New Delhi.

3.   West Germany: The current base year is 1976. Previous
series had 1962 and then 1970 as bases. The next base year
is likely to be 1980. The volume index is of the Laspeyres
type, and the unit value index of Passche type. The index

computation uses commoditywise data separately for "EC
countries" and "other countries". Adjustments for
excluded items made in a manner similar to the Indian
procedure. It is recognised the Paasche type index is
not strictly comparable between different periods.
Indices are also prepared for some economic classes e.g.
investment goods and consumption goods. Separate indices
are also computed for specification prices.

Source: Materials received from Dr. Pauli, Statistisches
Bundesamt, Wiesbaden, Federal Republic of Germany.

4.   The United Kingdom: The base is 1975 at present,
and was 1970 in the previous series. It is intended to
choose 1980 as the next base. Index numbers are calculated
monthly and on annual basis. Quarterly unit value and
volume indices are calculated as the simple average of the
three months. The index numbers are published within a
fortnight of the end of the month to which the figures
relate. Indices of total trade are also compiled on a
balance of payments basis after applying certain adjustments
to the Overseas Trade Statistics data. The terms of trade
are defined in accordance with standard international
practice as the ratio, expressed in index form, of the
unit value index for exports to that for imports, both
indices being on a balance of payments basis.

4.1   First estimates of the annual indices may be revised,
and the first estimates as well as the revised estimates
incorporate amendments to the values and quantities for
the months. In practice, the monthly unit value and volume
indices are adjusted to average out to the annual indices.

4.2   The unit value indices are Laspeyres indices. For
"headings" (items) not in the sample, suitable assumptions
about price movements are made. In most cases, unit
values of non-selected headings are assumed to move with
those of the selected headings. The volume indices are
also of the Laspeyres type, they are derived for each
"block" by deflating the total value of trade by a Paasche
index of unit value. As the composition of trade changes
relatively slowly, the products of changes in the unit
value and volume indices generally approximates to the
changes in the value of trade between one month and the
next. It is mentioned that the Paasche type unit value

indices lead to considerable difficulties in interpretation particularly of the month to month movements in the unit value index where the weighting pattern is changing monthly.

4.3   For some commodity groups quantity indicators are not quite satisfactory and indices derived from the data are likely to underestimate the rise in volume and overestimate the increase in price since the crude quantity measures take account of quality changes. Wherever possible, units of quantity are used which take account of performance of the machinery e.g. horsepower and size-class of cars and engines.

4.4   When a 'line' is not strictly homogeneous, implausible unit values can occur owing for example, to a change in commodity composition of the line or to a change in the source of imports. Such unit values are sometimes "smoothed" and any change (rise or fall) larger than some specified amount is treated as part of quantity movement, and the quantity figure is adjusted accordingly.

4.5   Calculations are based on lines (each line being one or more tariff headings) of adequate homogeneity for which the quantities and unit values seem to be comparable over time, and for which the value in 1975 trade was not too small. The lowest level of aggregation at which indices can be produced is called the block. In the 1975-based series for both exports and imports the number of blocks was 93 for the indices for 1978, and the corresponding number of lines was 798 for exports and 88 for imports. The selected headings cover 56% of the total value of exports and 64% of the total value of imports in the year 1978.

4.6   The coverage (percentage of value) of headings directly used in the index calculations in the 1970-based series was as follows in the trade of the year 1973:-

E x p o r t s		I m p o r t s	
Category	Coverage(%)	Category	Coverage(%)
Non-Manufactured goods	84.3	food, beverages and tobacco	88.1
food, beverages and tobacco	83.0	fuels	96.9
Basic materials	78.9	industrial materials	68.6
fuels	93.9	basic materials	85.8
Manufactured goods	58.7	Chemicals	48.5
Chemicals	45.2	other semi-manu-factures	63.8
textiles	80.1		
metals	78.5	finished manufactures	51.2
machinery and transport equipment	66.8	manufactured goods	55.7
others	34.6		
Total	60.6	Total	70.0

4.7 Indices are prepared separately for the following categories of goods :

Exports: Non-manufactured goods, particularly food, beverages and tobacco, basic materials: manufactured goods particularly chemicals, metals, textiles, machinery and transport equipment, others.

Imports: food, beverages and tobacco, fuels: industrial materials particularly basic materials, chemicals, other semi-manufactures, finished manufactures.

4.8 The value figures of overseas trade are seasonally
adjusted using the multiplicative version of the X-11
variant of the US Bureau of the Census Method II. The
seasonally adjusted volume index can be obtained by
deflating the seasonally adjusted value figures by the
Paasche type unit value index. It is assumed that the
unit value index series is not affected by seasonal
influences, although this is not completely realistic.

4.9 Much of the computation has been mechanized. It
may therefore be possible to mechanise the "smoothing"
of unit values and to construct indices for different
geographical or economic areas. The use of detailed
commodity/country data might reduce the extent of hetero-
geneity in selected headings.

Source: Materials received from Mr. D.G. Elis Williams,
Department of Industry and Trade, London (UK). These
included the following articles: i) United Kingdom Overseas
trade: unit value and volume index numbers and the terms
of trade 1970-75, By R. Sellwood. Economic Trends, No.258,
April 1975. ii) United Kingdom Overseas trade unit value
and volume index numbers and the terms of trade.
By A.R. Hewer. Economic Trends, No. 311, September 1979.

5.   Canada: The base of the existing series is 1971. The
previous base was 1968. The price index is of the Paasche
type; it was Laspeyres for the previous years. The volume
index (of Laspeyres type) is obtained by dividing the value
index by the price index. (Actually 36% of Canadian imports
and 15% of exports are recorded in terms of value only, and
for a variety of reasons, no corresponding quantity infor-
mation is tabulated). It is pointed out that in the System
of National Accounts, change in GNP in real terms is studied
through Laspeyres type indices, and therefore the implicit
GNP deflator is a Paasche price index. Consequently, indices
of exports and imports used in GNP statistics are of the
Laspayres volume and Paasche price type. However, changes
in the Paasche price index are partly due to changes in
the weights attached to the price relatives. It is likely
to be more volatile than the Laspeyres index.

5.1   The export and import price indices are based on
unit values obtained from the trade statistics and speci-
fication prices from Canadian and foreign sources. The
(proxy) specification prices (collected from a sample of
respondents) refer to a particular physical description
and terms of sale, e.g. size of transaction, type of
customer and credit terms. As unit values may not remain
comparable over long periods because of technical or
market changes, unit values are used for relatively homo-
geneous commodities (e.g. primary and semi-manufactured
goods) and specification prices (mainly wholesale prices)
are used for heterogeneous commodities, especially manufac-
tured products for final use. Most of the specification
price indices used for imports are taken from US Bureau
of Labour Statistics wholesale price indices. Advantages
and disadvantages of specification price indices are
recognised and it is noted that most countries base their
trade price indexes on unit value prices alone. However,
West Germany, Japan and USA also make use of specification
prices.

5.2   Selection of commodities for price relatives based on
unit value is guided by importance of the commodity (i.e.
its share in trade) and the evidence that changes in unit
value primarily reflect price changes. (The latter was
based on detailed examination of time trends). The list of
selected price indicators is continually reviewed.

5.3   Occasionally, out of line unit values which cannot be
explained are not accepted until further confirmation.
Revisions are sometimes made of the value data and also
of the indices.

5.4   Indices are available on a monthly basis for section I
to V. The Paasche price indices are also available on a
quarterly basis for 20 commodity groups for imports and
23 for exports.

5.5   The commodity coverage (%) of the index numbers for

Imports and exports is as follows:-

	Live animals	Food, beverages & tobacco	Crude materials, inedible	fabricated materials, inedible	Product inedible	Total
			I M P O R T S			
Unit Values	56.1	76.0C	88.0	40.0	-	22.7
Specification indices	6.4	-	1.3	14.1	76.8	50.5
	62.5	76.0	90.1	54.1	76.8	73.2
			E X P O R T S			
Unit Values	74.4	93.5	90.1	86.6	-	57.1
Specification indices	-	-	-	-	81.8	29.2
	74.4	93.5	90.1	86.6	81.8	86.3

.5.6 Seasonally adjusted volume indices are published regularly. These are derived by deflating the raw value series by the raw Paasche price index and seasonally adjusting the result using the U.S. Bureau of the Census X-II seasonal adjustment programme.

Source: Materials sent by Dr. Yuon Goulet, Director, External Trade Division, Statistics Canada, Ottawa, Ontario, Canada. These included the publication entitled. "The 1971-based price and Volume Indices of Canada's External Trade" of the Statistics Canada dated December, 1976.

6.   USA: Quantity, unit value and value indices are pub-
lished for overall export and import trade, for each of
five economic classes, viz. crude foods, manufactured
foods, crude (nonfood) materials, semi-manufactures and
finished manufactures, for exports of "manufactured goods"
under category of the Standard International Trade Classi-
fication (SITC) and for major end-use classes. The base
period is 1967. The unit value indices are constructed
by Fisher's ideal formula on the (annual) chain base system,
and quantity indices are derived dividing the value indices
by corresponding unit value indices.

6.1   The indices are computed for every month, quarter and
year. Monthly and annual indices are calculated through
the formulae mentioned. The quarterly index numbers for
quantity are obtained as simple arithmetic averages of the
separate monthly indices, the quarterly indices of unit
value are then obtained by dividing the quarterly value
index by the quarterly index of quantity.

6.2   The basic data used are the commodity-by-country
statistics of quantity and value of exports and imports.
Actually, selected samples of commodities and commodity-
country cells enter the computations directly. The
selected samples generally include the leadings individual
products besides a variety of smaller typical items. The
selections are limited - especially for finished manu-
factures - by insufficient homogeneity within the most
detailed statistical classes for many commodities and
by non-availability of quantity measures for many others.
The sample is updated every year by adding items as
improved data become available or new products enter the
trade, any by deleting items as they lose importance.

6.3   The percentage coverage of sample commodities
directly entering the index computations has been as
follows in recent years :

	Total	Crude materials	Crude foods	Manufac-tured foods	Semi-Mfrs.	Finished Mfrs.
Exports, excld. military grant-in -aid	45-50	88-93	94-96	50-70	50-60	15-25
Imports	50-65	62-80	80-85	65-70	62-70	23-25

6.4   The range of commodities is divided into about 125 weighting groups and for each group it is assumed that the average relative price charge for non-samples commodities equals the weighted average for the sample items.

6.5   For some important commodities, before the index is computed the unit value relative is _adjusted_ using a linear regression equation relating to average unit value for the commodity to the corresponding average unit – shipping weight. The aim of the _adjustment_ is to eliminate the effect of variation in average unit shipping weight between the two periods compared.

6.6   It is recognized that the restriction on sample selection due to heterogeneous content of numerous commodity classes limits the coverage and representativeness of the samples. Even the selected samples often lack homogeneity and therefore do not measure price changes in a reliable manner. The indices for finished manufactures are most severely limited, and here especially, the monthly indices should be observed or averaged over three months or more to reduce the effect of erratic movements caused by lack of sample coverage and lack of homogeneity within sample commodities. It is also noted that some distortions may arise from the practice of certain shippers, permissible in some cases by the statistical regu-lations, of entering on the customs documents values different from actual market valuations.

6.7   Regarding the five economic classes mentioned above, it may be noted that the two "crude" classes mainly include products of farms, fisheries, forests and mines, prior to processing in manufacturing establishments, but a few of the items, such as hides and skins and stemmed tobacco, may also be outputs of manufacturing. "Semi manufactures" are non-food manufactured materials in the earlier stages of processing, while "finished manufactures" generally include highly processed bulk materials and components and products fabricated from them, being a broader category than final-use (capital and consumer) goods.

Source: Materials received from Dr. Vincent P. Barbarn, Director, Bureau of the Census, US Department of Commerce, Washington D.C.

LIST OF SAMPLED COMMODITIES AS PER
7-DIGIT OF ITC-REV 2 UNDER EXPORT FOR
PROPOSED SERIES (BASE 1978-79 = 100)

Section: 0

01 Meat & Meat Preparations

0112000   0118901
0118909

03 Fish and fish preparations

0341003   0360004
0342003   0360006
0350302   0360007
0360001   0372001

04 Cereals and cereal preparations

0412001   0460100
0412002   0484201
0422102   0488001
0422200   0488002

054 & 056 Vegetables

0541002   0561002
0545101   0561003
0545102   0565103
0548103

17

Section: 0 contd.

057 & 058 Fruits and nuts

0571100	0579703
0574000	0579704
0577301	0583001
0577302	0585400
0577902	0585701
0577903	0586301
0579701	0589101

061.1 & 061.2 Sugar

0612003	0615001

071 Coffee

0711101	0711105
0711102	0711106
0711103	0712001
0711104	

074 Tea

0741001	0741005
0741002	0741006
0741003	0741007
0741004	

Section: 0 contd.

075 Spices

0751001	0752507
0751002	0752508
0751003	0752601
0751005	0752602
0752403	0752603
0752404	0752801
0752405	0752800
0752406	0752803
0752504	0752806
	0752807

081.3 Oilseed Cake

0813102	0813402
0813103	0813602
0813202	0813906
0813301	0813908
0813302	

Residuary items under Sec. 0

0012200	0812101
0615001	0814201
0723200	0819901
0730002	0980200

Section: 1

12 Tobacco and Tobacco Manufactures

1211001	1212904
1211100	1222000
1211902	1223002
1212100	
1212903	

Section: 2

263 Raw cotton

2631101	2633201
2631109	2633203
2633101	

26 Excl. 263 Textiles fibres and wastes

2614201	2685901
2640001	

27 Excl. 271 Minerals (Excl. coal, petroleum etc.)

2731302	2785231
2731303	2785255
2782103	2789201
2785201	2789202
2785208	2789304
2785219	

Section: 2 contd.

281 Iron ore and concentrate

2815001	2815004
2815002	2816001
2815003	

287 Ores and concentrated of base metals n.e.s.

2871100	2877006
2873201	2879101
2877001	2879104
2877003	2879301
2877004	
2877005	

29 Crude animals and vege-table materials n.e.s.

2911101	2919402
2911102	2922101
2911103	2922102
2911601	2922105
2919201	2922207
2919301	2922232
2919401	2922245

Section: 2 contd.

2923001	2929105
2924004	2929122
2924024	2929123
2924025	2929302
2924027	2929802
2924032	2929821
2924033	

Residuary (Section-2)

2221001	2820200
2225000	2820900
2238000	

Section: 3

322 Coal

3222004

334 Petroleum Product

3341000	3343000
3342000	

Section: 4

Sec. 4 Animal and vege-table oils and waxes

4242000	4249006
4245000	4311002
4249001	4312002
4249004	

Section: 5

Sec.5 Chemicals and related products

5121100	5232212
5121601	5233102
5137923	5312201
5146006	5312251
5162902	5313101
5162903	5315331
5162906	5316014
5169103	5318131
5221207	5318141
5222102	5318142
5225201	5318151
5231201	5319200
5231212	5331005
5231301	5334206
5231901	5334207

Section: 5

5414002	5513047
5414018	5530025
5414022	5530051
5417986	5541013
5417987	5542001
5513019	5722001
5513025	5983101

Section: 6

611 and 612 Leather and leather manufactures

6113002	6114022
6113004	6114039
6113006	6115002
6113007	6115005
6113009	6115009
6114002	6116101
6114003	6116102
6114004	6116103
6114005	6116104
6114019	6116105

Section: 6 contd.

611 and 612 Leather and
leather manufactures

6116107	6122000
6116108	6123003
6116109	6123005
6116929	

651 Textile yarn

6513101	6513222
6513102	6513324
6513103	6513601
6513121	6517112
6513122	6519801
6513123	6519903

652 Cotton fabrics woven

6521617	6522406
6521621	6522412
6521624	6522453
6521707	6522454
6521717	6522456
6522201	6522461
6522404	6522603

Section: 6 contd.

652 Cotton fabrics
woven.   contd.

6522608	6522658
6522611	6522662
6522623	6522663
6522624	6522708
6522645	6522751
6522646	
6522647	
6522651	

653 & 654 Textile fabrics
other than cotton

6531400	6535618
6531501	6536005
6531601	6539801
6531602	6541001
6531604	6541002
6532000	6541003
6535400	6541005
6535514	6541007
6535518	6545001
6535521	6545002
6535522	6545009
6535614	6545011

Section: 6 contd.

658 Made-up articles of
textiles materials

6581002	6584803
6581003	6584804
6581004	6584805
6581005	6584812
6581006	6584814
6581007	6584815
6581011	6584818
6582101	6584821
6582102	6584824
6582901	6584835
6584801	6589901
6584802	6589902

659 Floor coverings

6591202	6596101
6592101	6596201
6594101	6596207
6594102	6596208
6594103	6596211
6594203	6596212
6594901	6597011

Section: 6 contd.

66 Non-metallic mineral
manufactures n.e.s.

6618301	6643001
6618302	6651101
6618311	6651104
6624500	6651200
6633303	6658900
6633312	6672900
6633332	

67 Iron and steel

6712002	6733402
6716101	6733902
6716200	6745101
6716901	6745201
6716902	6746107
6725101	6760101
6725109	6770102
6732209	6770201
6732601	6781001
6732609	6781002
6732701	6781003
6732709	6783001
6733401	6783009

Section:6 contd.

67 Iron and steel contd.

6785001	6793000
6785002	6794100
6785003	

68 Non-ferrous metals

6811300	6842111
6811401	6842112
6822202	

69 Structures and parts of structures n.e.s of iron, steel and aluminium

6911001	6931101
6911004	6931102
6911007	6931103
6911008	6932001
6911013	6935101
6912001	6940103
6912111	6940201
6912112	6940202
6921102	6940213
6924101	6951000

Section: 6 contd

69 Structures and parts
of structures n.e.s. of
iron, steel and aluminium contd.

6953201	6991200
6953202	6991301
6953300	6991302
6953401	6994101
6953906	6996301
6954127	6996501
6954301	6997903
6960301	6997906
6973401	6997907
6973421	6998122
6974122	
6974201	
6974301	
6975202	
6991101	

(Sec. 6 Residuary)

6133003	6341001
6251000	6342001
6252000	6343201
6254000	6344300
6259905	6353000
6282004	6359100
6289804	6415904

Section: 7

71 to 75 Non-electrical machinery

7111001	7244311
7119900	7244902
7132201	7244903
7132202	7246905
7132204	7246911
7132205	7247903
7132206	7271901
7133201	7272101
7133211	7272204
7139103	7272205
7139107	7272901
7139108	7284201
7139303	7284802
7162101	7284806
7162301	7284809
7169001	7413202
7169002	7361307
7211901	7361311
7211902	7361504
7212900	7361802
7213800	7361902
7224000	7359001
7234800	7372902
7239003	7411001

Section: 7 contd.

71 to 75 Non-electrical
machinery contd.

7413101	7432000
7414102	7441101
7414903	7444202
7415001	7449003
7415002	7449005
7416001	7452701
7422001	7452711
7422002	7491901
7422202	7492003
7428101	7499900
7429002	7511200
7431001	7518100

76. Telecommunications and
sound recording reproducing
apparatus and equipment

7621000	7642001
7622000	7642002
7628009	7642003
7631100	7642005
7631801	7642006
7638100	7649100
7638802	7649200
7638809	7649302

Section: 7 contd.

77. Electrical machinery

7711101	7757206
7711118	7757901
7711801	7758100
7711818	7763001
7712901	7764000
7721004	7768100
7721007	7768900
7721008	7781101
7721015	7781102
7721017	7781201
7721019	7782104
7721022	7782201
7721023	7782901
7721024	7782902
7723011	7783204
7723012	7783105
7731019	7788102
7731021	7788402
7731022	7788403
7731023	7788404
7731029	7788405
7732400	7788411
7752101	7788600
7757203	7788900

Section: 7 contd.

78 and 79 Transport equipment

7821001	7852001
7821003	7853901
7831000	7853902
7832000	7853903
7841001	7853905
7841002	7853906
7842002	7914000
7849001	7915200
7849002	7919101
7849003	7932301
7851001	7932806
7851003	7938201

Section: 8

84. Articles of apparel and clothing accessories

8422202	8431202
8423202	8431203
8424201	8431204
8424202	8432201
8429303	8432202
8429304	

Section: 8 contd.

84. Articles of apparel
and clothing accessories   contd.

8433203	8462106
8433205	8462901
8433206	8435103
8433303	8435104
8433903	8435200
8434201	8435901
8434202	8435902
8434300	8439301
8435101	8439302
8435102	8439303
8443103	8439304
8443104	8439901
8443105	8441010
8443106	8441102
8443107	8441105
8443108	8441106
8443200	8441107
8451102	8441111
8451103	8441112
8452203	8441114
8462101	8441115
8462102	8441116
8462105	8441200

Section: 8 contd.

84. Articles of apparel & clothing accessories contd.

8462903	8471216
8471101	8471221
8471102	8471222
8471207	8471223
8471212	8471224
8471214	8471225
8471215	8471226

85. Footwear

8510201	8510204
8510202	8510211
8510203	8510212

89. Miscellaneous manufactures articles n.e.s.

8921101	8947206
8922001	8947213
8922002	8952102
8931002	8960100
8947204	8972002
8947205	8973101

Section: 8 contd.

84. Miscellaneous manufactures articles n.e.s. contd.

8973102	8973107
8933001	8973108
8933002	8973104
8935001	8973203
8947203	8993201
8973103	8999701

Residuary Sec. 8

8122000	8310102
8211102	8310201
8219101	8811100
8219102	8830001
8219103	8830002
8310107	8851102
8310111	

LIST OF SAMPLED COMMODITIES AS PER
7-DIGIT OF ITC REV.2 UNDER IMPORT
FOR PROPOSED SERIES (BASE 1978-79=100)

Section: 0

02   Dairy products

0224102	0224902
0224202	0230002
0224302	0230003
0224303	

041 to 048   Cereals and cereal preparations

0411000	0440000
0412002	0460100
0422102	
0422200	

057 and 058 Fruit and nuts

0575100	0577901
0575201	0579303
0575209	0579602
0577303	0579603
0577401	0579801
0577402	0579901

Section: 0 contd.

075 Spices

0752201   0752301
0752202   0752302

(Sec.0 - Residual)

0542001   0542007
0542002   0548400
0542004   0721000
0542005   0980100

Section: 1

11 - Beverages

1124100

Section: 2

22 Oil seeds and oleaginous fruit

2226000   2231000

Section: 2 contd.

23 Crude rubber (including synthetic and reclaimed)

2320201	2331600
2320202	2331909

25 Pulp and waste paper

2512000	2517200
2516000	2518100
2517100	2518200

26 Textile fibres and wastes

2613001	2665300
2631201	2665903
2631203	2671102
2631204	2681000
2640001	2686100
2651100	2690101
2651400	2690102
2665200	2690202

271 Crude fertilizers

2713109

Section: 2 contd.

274.1 Sulphur

2741000

27 Excl. 271 and 274.1
Minerals (excl. coal,
petroleum and precious
stones)

2771001	2784012
2782402	2784019
2784001	2786201
2784011	

287 Ores and concentrates
of base metals, nes.

2875000	2879200

288 Non ferrous base metal
waste and scrap nes

2882101	2882600
2882102	
2882200	
2882400	

(Sec. 2 - Residual)

2472124	2786201
2782402	2820900
2784001	2922203
2784011	2922204
2784012	

Section: 3

333 Petroleum, crude

3330000

334 Petroleum product

3341000	3343000
3342000	

Section: 4

Sec. 4 Animal & vegetable oils, fats and waxes

4113201	4236000
4113209	4239100
4232000	4242000
4234001	4243000
4234002	4314301
4234003	

Section: 5

51 Organic chemicals

5112901	5138200
5112904	5139003
5112905	5139004
5113912	5145012
5121100	5145023
5121400	5145026
5121500	5146048
5121702	5146051
5121703	5148900
5121911	5156101
5121913	5156908
5121915	5156916
5123401	5156918
5123402	5156928
5123604	5162114
5123612	5162400
5137801	5162908
5137911	5162917
5138100	5169106
	5169900

52 Inorganic chemicals

5221206	5221403
5221207	5221503

Section: 5 contd.

52 Inorganic chemicals contd.

5221600	5225907
5221801	5231101
5221802	5231912
5222401	5232301
5224602	5232302
5225101	5232506
5225202	5232801
	5239300

53 Dyeing, tanning and colouring materials

5319200	5322201
5322103	5334404
5322104	

54 Medicinal and pharmaceutical products

5411005	5411019
5411006	5417911
5411007	5417967

Section: 5 contd.

56 Fertilizers manufactured

5621100	5623102
5621300	5623200
5621600	5623900
5621900	5629200
5622200	5629300
5622900	5629900
5623101	

58 Artificial resins and plastic materials and cellulose esters and ethers

5823200	5834102
5824101	5834103
5827000	5835101
5829000	5842101
5831101	5842103
5831102	5842203
5831109	5851002
5832100	5852902
5832200	5852903
5833101	

Section: 5 contd.

(Sec.5 Residual items)

5513032	5989203
5911001	5989801
5911007	5989903
5922302	5989914
5983200	

Section: 6

64 Paper paperboard and
articles thereof

6411001	6415908
6411009	6415921
6412109	6415922
6413901	6418904
6415902	6418907
6415905	6421001

651 Textile yarn

6512100	6517102
6514300	6517105
6514400	6517106
6517101	6517301

651 Textile yarn contd

6517302   6517303

66 Non-metallic mineral manufactures nes

6612001	6649401
6612002	6649403
6612003	6658202
6612009	6658900
6623101	6671001
6637001	6672100
6637002	6673101
6642001	6673102
6644001	

67 Iron and steel

6716904	6732401
6716912	6732402
6727501	6732501
6731102	6732502
6731201	6732519
6731503	6732601

Section: 6 contd.

67 Iron and steel contd.

6733100	6745119
6733201	6745201
6733202	6745202
6733300	6745301
6733501	6745403
6733502	
6741400	6745406
6741501	6746102
6741503	6746104
6741504	6746105
6741509	6746106
6744101	6746107
6744109	6746108
6744201	6746201
6744202	6746301
6744209	6746302
6745101	6746309
6745102	6747009
6745104	6747019
6745109	6749101
	6749104

Section: 6 contd.

67 Iron and steel contd.

6749105	6750403
6749109	6750511
6750101	6781009
6750111	6782101
6750112	6782300
6750202	6782400
6750211	6785001
6750212	6785003
6750401	6793000
6750402	6794200

682 Copper

6821201	6822300
6821209	6822400
6822107	6822501
6822202	6822502
6822212	

683 Nickel

6831001	6832201
6831011	6832202
6832101	6832203
6832102	6832400

Section: 6 contd.

685 Lead

6851101

687 Tin

6871001	6871019
6871009	

69 Manufactures of metal nes

6911001	6954123
6924301	6996501
6924302	6999101
6940202	6999201
6951000	

(Residual under Sec.6)

6861001	6899901
6863101	6899911
6891101	6899923
6891500	

Section: 7

71 Power generating machinery and equipment

7119900	7144000
7126011	7148100
7129002	7148800
7129003	7162200
7131100	7162301
7131900	7162309
7132106	7169001
7132206	7169002
7139104	7169003
7139105	7169004
7139108	7187002
7139204	7188100
7139205	7188200
7139302	7188900
7139303	

72 Machinery specialised for particular industries

7211901	7234400
7213800	7234600
7219900	7234800

Section: 7 contd.

72 Machinery specialised for particular industries contd.

7239002	7252002
7239003	7259100
7239005	7259900
7239006	7264101
7243103	7268900
7243904	7269100
7244902	7269902
7244904	7281100
7245104	7281206
7245402	7281209
7246113	7281902
7246901	7283101
7246905	7283900
7246911	7284103
7247902	7284302
7247903	7284500
7248000	7284802
7248012	7284803
7251200	7384903
7252001	

Section: 7 contd.

73 Metal working machinery

7361511	7369001
7361513	7372100
7361901	7372901
7361904	7372902
7361905	7373231
7361906	

74 General industrial machinery and equipment, nes and machine parts nes.

7412001	7428801
7412003	7429001
7413100	7429002
7413102	7429003
7413103	7431001
7413111	7431003
7413201	7432000
7413202	7433000
7416002	7434001
7416022	7434002
7422001	7436001
7428102	7439001
7428103	7439002
	7441900

Section: 7 contd.

74 General industrial machinery
and equipment, nes and machine
parts nes. contd.

7442201	7491302
7442202	7491304
7442302	7491305
7449002	7491306
7449004	7491402
7449005	7492003
7452202	7493001
7452711	7493002
7491101	7493005
7491102	7499101
7491104	7499201
7491105	7499900
7491301	

75 Office machines and auto-
matic data processing equip-
ment

7512101	7522000
7512802	7525000

Section: 7 contd.

77 Electrical machinery

7711101	7761000
7711118	7763001
7712202	7763009
7712901	7764000
7712902	7768900
7721014	7782902
7721017	7783111
7721023	7783201
7721031	7788101
7722002	7788102
7723001	7788402
7723005	7788411
7731001	7788502
7731023	7788600
7732400	7788702
7741009	7788703
7742001	7788705
7742009	7788900
7758700	
7758900	

Section: 7 contd.

78 & 79 Transport Equipment

7822001	7919902
7832000	7921001
7849001	7924001
7849002	7929000
7849003	7932401
7861300	7933000
7912001	7938400

Residuary under Sec.7

7641001	7649301
7641002	7649302
7642005	7649303
7643002	7649304
7648100	7649305
7648300	7649902
7649100	

Section: 8

87 Professional, scientific and controlling apparatus and instruments

8710301	8720231
8710411	8720300

Section: 8 contd.

87 Professional, scientific
and controlling apparatus and
instruments, contd.

8741101	8745301
8741214	8745404
8742900	8748200
8843001	8748302
8743002	8748912
8744001	8749001
8744004	8749002
8744021	8749003
8744032	8749005
8745101	

88 Miscellaneous manufac-
tured articles

8811100	8822203
8811900	8822300
8812900	8822401
8813900	8830002
8822101	8851300
8822201	8851400
8822202	8852902

Section: 8 contd.

(Residuary under Sec.8)

8921101   8973101
8922002   8998401
8928200

RECOMMENDED LIST OF COMMODITY BLOCK FOR WHICH ADJUSTMENTS MAY BE MADE FOR INCOMPLETE COVERAGE

LIST FOR EXPORTS

ITC Rev 2 Codes	ITC Rev 2 Codes	ITC Rev 2 Codes
011	281	654
034 & 035	282	658
036 & 037	287	659
041	291	66
042	292	671
046	322	673 & 674
048	334	677
054 & 056	424	678
057 & 058	51	681
061	52	682
071	53	684
074	54	691
075	55	692
081.3	611	694
121	612	695
22		

ANNEX - VII (Contd.)

ITC Rev 2 Codes	ITC Rev 2 Codes	ITC Rev2 Codes
22	625 & 628	696
261	634 & 635	697
263	651	699
273	652	71
278	653	72
73	78	85
74	79	88
75	82	89
76	83	
77	84	

ANNEX – VII (Contd.)

LIST OF IMPORTS

ITC Rev 2 Codes	ITC Rev 2 Codes	ITC Rev 2 Codes
02	274	665
041	287	667
044	288	671
046	333	672
047	334	673 & 674
054	41	675
057	42	678
075	43	679
12	51	682
22	52	683
23	53	684
25	54	685
261	56	687
263	58	689
264	64	691
265	651	692
266 & 267	661	694
268	662	695
269	663	699
271	664	71

ANNEX – VII (Contd.)

ITC Rev 2 Codes	ITC Rev 2 Codes	ITC Rev 2 Codes
72		874
73		881
74		882
75		883
76		885
77		892
78		898
79		
871		
872		

PROPOSED   PROFORMA FOR   PRESENTATION OF
EXPORT INDICES OF FOREIGN TRADE OF INDIA

ITC -R 2 Codes	Major Heads
01	Meat and meat preparations
03	Fish and fish preparations
04	Cereals and cereal preparations
054 & 056	Vegetables
057 & 058	Fruits and nuts
061.1 & 161.2	Sugar
071	Coffee
074	Tea
075	Spices
081.3	Oilseed cake
Section: 0	Food and food articles
12	Tobacco and tobacco manufactured
Section: 1	Beverage and tobacco
263	Raw cotton
26 excl. 263	Textile fibres and waste excl. cotton
27 excl. 271	Minerals (excl. coal, petroleum etc)
281	Iron ore and concentrate
287	Ores and concentrates of base metals n.e.s.
29	Crude animals & vegetables materials n.e.s.

ANNEX - VIII (Contd.)

ITC -R 2 Codes	Major Heads
Section: 2	Crude materials inedible except fuels
322	Coal
334	Petroleum products
Section: 3	Mineral fuels, lubricants etc.
Section: 4	Animal & vegetable oils and waxes
Section: 5	Chemicals and related products
611 & 612	Leather and leather manufactures excl. footwear
651	Textile yarn
652	Cotton fabrics woven
653 & 654	Textile fibres other than cotton
658	Made-up articles of textile materials
659	Floor coverings
66	Non-metallic mineral manufactured n.e.s.
67	Iron and steel
68	Non-ferrous metals
69	Structures and parts of structures n.e.s. of iron steel or aluminium
Section: 6	Leather, leather manufactures n.e.s. and dressed furskins

ANNEX - VII (Contd.)

ITC -R 2 Codes	Major Heads
71 to 75	Non-electrical machinery,
76	Telecommunications and sound recording/reproducing apparatus and equipment
77	Electrical machinery
78 & 79	Transport equipment
Section: 7	Machinery & transport equipment
84	Articles of apparel and clothing accessories
85	Footwear
89	Miscellaneous manufactured articles n.e.s.
Section: 8	Miscellaneous manufactured articles

PROPOSED PROFORMA FOR PRESENTATION OF
IMPORT INDICES OF FOREIGN TRADE OF INDIA

ITC - R 2 Codes	Major Heads
02	Dairy products
041 to 048	Cereals and cereal preparations
057 & 058	Fruits and nuts
075	Spices
Section: 0	Food and food articles
11	Beverages
Section: 1	Beverage and tobacco
22	Oilseeds and oleoginous fruit
23	Crude rubber (including synthetic and reclaimed)
25	Pulp and waste paper
26	Textile fibres and waste
271	Crude fertilizer
274.1	Sulphur
27 excl. 271 & 274.1	Minerals (excl. coal, petroleum crude fertilizer, sulphur and precious stones)
287	Ores & concentrate of base metals
288	Non-ferrous base metals waste and scrap n.e.s.
Section:2	Crude materials inedible except fuel
333	Petroleum, crude

ANNEX - IX (Contd.)

ITC - R 2 Codes	Major Heads
334	Petroleum product
Section: 3	Mineral fuels, lubricants etc.
Section: 4	Animal and vegetable oil, fats and waxes
51	Organic chemicals
52	Inorganic chemicals
53	Dyeing, tanning and colouring materials
54	Medicinal and pharmaceutical products
56	Fertilizer manufactured
58	Artificial resins and plastic material and cellulose cater
Section: 5	Chemicals & related products
64	Paper, paper board and articles thereof
651	Textile yarn
66	Non-metallic mineral manufactures n.e.s.
67	Iron and steel
682	Copper
683	Nickel
684	Aluminium
685	Lead
687	Tin
69	Manufactures of metal n.e.s.

ANNEX - IX (Contd.)

ITC - R 2 Codes	Major Heads
Section: 6	Leather, leather manufactures, n.e.s. and dressed furskins
71	Power generating machinery & equipment
72	Machinery specialised for particular industries
73	Metal working machinery
74	General industrial machinery & equipment n.e.s.
75	Office machines & automatic data processing equipments
77	Electrical machinery
78 & 79	Transport equipment
Section: 7	Machinery & transport equipment
87	Professional scientific and controlling instruments and apparatus n.e.s.
88	Photographic apparatus etc.
Section: 8	Miscellaneous manufactured articles

RESULTS ON QUICK INDICES

Table I and II below present the values of "quick indices" based on 50 major items entering India's export trade computed by various formula. The calculations were done on computer by the IIFT, New Delhi, utilizing the export statistics available on magnetic tape for the years 1968-69 through 1975-76. The object of this exercise was to examine the possibilities of quick indices of foreign trade based on a small number of items.

The 50 items were those having the largest value of trade in 1968-69 among items with quantity data available in unchanging units for all the years. The indices, however, are not strictly comparable with those of the existing series, as new adjustment for exclusion of items was made in computing the quick indices, as is done for the existing official series. Moreover, the choice of the 50 items could be possibly made in a more satisfactory manner, spreading them better over the different sections, divisions etc. The results, therefore, should be taken as extremely preliminary.

TABLE - I

UNIT VALUE INDEX NUMBERS (1968-69=100)
BASED ON 50 COMMODITIES OF INDIA'S
EXPORTS COMPUTED BY DIFFERENT FORMULA

Year	Chain base indices			Fixed base indices		
	Laspeyres	paasche	Fisher	Laspeyres	paasche	Fisher
1968-69	100	100	100	100	100	100
1969-70	104	104	104	104	104	104
1970-71	106	106	106	107	106	106
1971-72	100	101	101	101	99	100
1972-73	121	121	121	122	120	121
1973-74	147	147	147	147	146	147
1974-75	172	176	174	180	167	173
1975-76	181	183	180	180	177	179

TABLE II

QUANTUM INDEX NUMBERS (1968-69=100)
BASED ON 50 COMMODITIES OF INDIA'S
EXPORTS COMPUTED BY DIFFERENT FORMULA

Year	Chain base indices			Fixed base indices		
	Laspeyers	Paasche	Fisher	Laspeyers	Paasche	Fisher
1968-69	100	100	100	100	100	100
1969-70	95	95	95	95	95	95
1970-71	95	95	95	96	95	95
1971-72	98	99	99	100	98	99
1972-73	104	104	104	104	104	104
1973-74	105	105	105	106	105	105
1974-75	93	95	94	98	91	94
1975-76	99	100	99	102	101	101